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Practioner's Docket No. 32887/251705

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	WEAVER, Max Allen *et al.*
Application No.	:	09/751,766
Filed	:	December 29, 2000
For	:	**Method For Preparing Light-Absorbing Polymeric Compositions**
Examiner	:	Tucker, Philip C.
Group Art Unit	:	1712

Assistant Commissioner for Patents
Washington, DC 20231

OFFICE ACTION RESPONSE

Sir:

This Office Action Response is filed in response to the Office Action mailed January 15, 2003.

In the claims below, please amend claims 23, 35-39, 42, 52, 53, 55 and 57.

Please cancel claims 27 and 43-51 without prejudice to or disclaimer of the subject matter contained therein.

Please enter new claims 109-129.

The fee of $180.00 for ten additional claims is included with this Office Action Response.

1. (Original) A method comprising reacting

a) at least one diacidic monomer, comprising about 1 to 100 mole % of at least one light-absorbing monomer having a light absorption maximum between about 300 nm and about 1200 nm and 99-0 mole % of a non-light absorbing monomer which does not absorb significant light at wavelengths above 300 nm or has a light absorption maximum below 300 nm, with

b) an organic compound having the formula

$$X\text{-}B\text{-}X_1$$

wherein B is a divalent organic radical selected from the group consisting of C_2-C_{12} alkylene, C_3-C_8 cycloalkylene, C_1-C_4 alkylene-C_3- C_8-cycloalkylene- C_1-C_4 alkylene, C_1-C_4 alkylene-arylene- C_1-C_4 alkylene, C_2- C_4-alkylene-L-arylene-L- C_2-C_4 alkylene and C_2-C_4 alkylene-(L- C_2-C_4 alkylene)$_{1-4}$, wherein L is a linking group selected from the group consisting of -O-, -S-, -SO_2-, -NH-, -N(C_1-C_6 alkyl)-, -N(aryl)-, -N(SO_2 C_1-C_6 alkyl)-, -N(SO_2aryl)-, -SO_2N(C_1-C_6 alkyl)- and combinations thereof; X and X_1 are reactive groups and are independently selected from the group consisting of bromine, iodine and R-SO_2O; wherein R is selected from the group consisting of C_1-C_6 alkyl; C_1-C_6 alkyl substituted with chlorine, fluorine, C_1-C_6 alkoxy, aryl, aryloxy, arylthio or C_3-C_8 cycloalkyl; C_3-C_8 cycloalkyl or aryl,

wherein said reaction is carried out in a solvent in the presence of a base to form a light absorbing polymeric composition having the formula

$$\left[\text{A-B}\right]_n$$

wherein B is as defined above, n is at least 2 and A comprises the residue of said diacidic monomer.

2. (Original) The process of claim 1 where said light-absorbing monomers have the formula

H-Y-H

wherein H represents an acidic hydrogen atom; Y is a divalent light-absorbing moiety selected from the group consisting of chromophoric classes of azo, disazo, triazo, bis-azo, methine, arylidene, polymethine, azo-methine, azamethine, anthraquinone, anthrapyridone (3H-dibenz[f,ij]isoquinoline-2,7-dione, nitroarylamines anthrapyridine (7H-dibenz[f,ij]isoquinoline-7-one, phthaloylphenothiazine (14H-naphth[2,3-a]phenothiazine-8,13-dione, benzanthrone (7H(de)anthracene-7-one), anthrapyrazole, anthrapyrimidine (7H-benzo[e]perimidine-7-one), anthrapyrazole, anthraisothiazole, triphenodioxazine, thiaxanthene-9-one, fluorindine (5,12-dihydroquinoxaline [2,3-b]phenazine, quinophthalone, phthalocyanine, metal phthalocyanine, nickel dithiolenes, squarylium compounds, naphthalocyanine, coumarin (2H-1-benzopyran-2-one), coumarin croconium compounds, coumarin (2H-1-benzopyran-2-one), perinone, benzodifuran, phthaloylacridone, phthaloylphenoxazine (14H-naphtho[2,3-imine (2H-1-benzopyran-2-imine), anthraquinonethioxanthane (8H-naphtho[2,3-c] phthaloylacridone, phthaloylphenoxazine (13H-naphtho[2,3-a]phenoxazine-8,13-done, phthaloylacridone (14H-naphtho[2,3-acridine-5,8,14-trione), anthraquinonethioxanthane (8H-naphtho[2,3-c]thioxanthene-5,8,13-trione, anthrapyridazone, pyrrolo[3,4-c]pyrrole, indigo, thioindigo, quinoline, xanthene, acridine, azine, cyanine, oxazine, 1,4 and 1,5-naphthoquinones, 2,5-diarylaminoterephthalic acids and esters, pyromellitic acid dimide, naphthalene-1,4,5,8-tetracarboxylic acid diimide, 3-aryl-2,5-dioxypyrroline, 3-perylenetetracarboxylic acid diimide, 3-aryl-2,5-dioxypyrroline, arylisoindoline, aryl-5-dicyanomethylene-2-oxopyrroline, naphthotriazole, hydroxybenzophenone, benoztriazole, naphthopyran (3H-naphtho[2,1-6]pyran-3-one and diminoisoindoline, naphthopyran (3H-naphtho[2,1-6]pyran-3-one and 3-imine, phthalimides, 2-arylbenzazoles, carbostyryls, 1,2-diarylethenes, 2,5-diarylthiophenes, 2,5-diaryl-1,3,4-oxadiazoles, triazines, 2,5-diarylfurans, 2,5-diaryl-1,3,4-thiadiazoles, thiophenes, 1,3-diphenyl-2-pyrazolines, 2-arylbenzofurans, 2,6-

diphenylbenzofurans, quinolines, quinoxalines, 3,4-diarylfuanones, distyrylarenes, benzanthrones, polyarenes and naphthalimides.

3. (Original) The method of claim 2 wherein the hydrogen atoms of said formula H-Y-H are independently bonded to an oxygen, sulfur, or nitrogen atom which is a part of the light absorbing moiety Y and which in combination provides two acidic functional groups.

4. (Original) The method of claim 3 wherein said acidic functional groups have pKa values of from about 1.5 to about 12.

5. (Original) The method of claim 3 wherein said acidic functional groups are independently selected from the group consising of $-CO_2H$, -SH, -OH attached to an aromatic ring, -CONHCO-, $-SO_2$-NH-CO-, $-SO_2$-NH-SO_2-, 1(H)-1,2,4-triazol-3-yl-, imidazolyl, benzimidazolyl, pyrazolyl, $-SO_2H$ attached to aromatic ring, $-NHSO_2R_5$ and-SO_2NHR_5, wherein R_5 is selected from the group consisting of C_1-C_6 alkyl, C_3-C_8 cycloalkyl, aryl and C_1-C_6 alkyl substituted with at least one group selected from the group consisting of C_1-C_6 alkoxy, aryl, aryloxy, arylthio and C_3-C_8 cycloalkyl.

6. (Original) The method of claim 1 wherein said non light-absorbing monomers have the formula

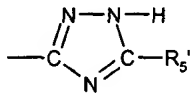
$$H\text{-}Y_1\text{-}H$$

wherein H represents an acidic hydrogen atom; Y_1 is a divalent moiety selected from the group consisting of-O_2C-R_1-CO_2- and-O-R_2-O- and-O_2C-R_3-O-, wherein R_1 is selected from the group consisting of C_2-C_{12} alkylene, 1-4-cyclohexylene, arylene, arylene-O-arylene, arylene-SO_2-arylene, arylene-S-arylene, and C_1-C_4 alkylene-O- C_1-C_4 alkylene; wherein R_2 is selected from the group consisting of arylene, arylene-O-arylene, arylene-S-arylene, arylene-SO_2-arylene, phenylene-phenylene, and phenylene-$C(R_4)_2$-phenylene; wherein R_4 is selected from the group consisting of hydrogen and C_1-C_4 alkyl; wherein R_3 is selected from arylene.

7. (Original) The method of claim 1 wherein said polymeric composition is linear.

8. (Original) The method of claim 1 wherein said diacidic monomers have pK_a values of about 12 or below.

9. (Original) The method of claim 2 wherein H-Y-H includes a moiety selected from the group consisting of carboxy groups attached to an aromatic ring carbon or aliphatic carbon, hydroxy groups attached to an unsubstituted or substituted phenyl or naphthyl radical, -CO-NHCO- groups attached to an aromatic ring to provide an imide and 1(H)-1,2,4-triazol-3-yl group having the formula



wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl and aryl.

10. (Original) The method of claim 1 where n is between about 2 and about 25.

11. (Original) The method of claim 1 wherein n is between about 3 and about 15.

12. (Original) The method of claim 1 wherein said base is selected from the group consising of alkali metal carbonates, alkali metal bicarbonates and tertiary amines, aromatic nitrogen bases, bicyclic nitrogen containing bases having non-hindered electron pairs and mixtures thereof.

13. (Previously Amended) The method of claim 12 wherein said base is selected from the group consisting of triethylamine, tri-n-butylamine, N-methylpiperidine, N,N'-dimethylpiperazine, N-

methylmorpholine and N,N,N',N'-tetramethylethylenediamine, pyridines, picolines, quinolines, isoquinolines, N-alkylpyrroles, N-alkylimidazoles, 1,8-diazabicyclo[5,4,0]undec-7-ene (DBU), 1,5-diazabicylco[4,3,0]non-5-ene (DBN) and 1,4-diazadicyclo[2,2,2]octane and mixtures thereof.

14. (Original) The method of claim 1 wherein said solvent is one or more aprotic polar solvents.

15. (Original) The method of claim 1 wherein said solvent is selected from the group consisting of N,N-dimethylacetamide, N,N-dimethylformamide, N-methyl-2-pyrrolidone, N-methyl-N-phenyl formamide, dimethylsulfoxide, aliphatic nitriles, sulfolane, hexamethyl phosphoramide, water, alcohols, ketones pyridine and ether-alcohols and mixtures thereof.

16. (Original) The method of claim 15 wherein said solvent is selected from the group consisting of N,N-dimethylacetamide, N,N-dimethylformamide, N-methyl-2-pyrrolidone, N-methyl-N-phenyl formamide, dimethylsulfoxide, aliphatic nitriles, sulfolane and hexamethyl phosphoramide and mixtures thereof.

17. (Original) The method of claim 1 wherein said reacting is conducted at a temperature between about 75°C and about 125°C.

18. (Original) The method of claim 1 wherein said organic compound having the formula

$$X\text{-}B\text{-}X_1$$

is selected from the group consisting of disulfonate compounds where X and X_1 are both a sulfonate ester of the formula $-OSO_2R$, wherein R is selected from C_1-C_4 alkyl, phenyl or p-methylphenyl and wherein B is selected from C_2-C_6 alkylene, $-CH_2$-1,4-cyclohexylene-CH_2-, $-CH_2CH_2(O\ CH_2CH_2)_{1-4}$ and $-CH_2CH_2O$-1,4-phenylene-O-CH_2CH_2-.

19. (Previously Amended) The method of claim 18 wherein said B moiety of the organic compound having the formula $X\text{-}B\text{-}X_1$ is selected from the group consisting of-CH_2CH_2-, -$CH_2CH(CH_3)CH_2$-, -$CH_2C(CH_3)_2CH_2$-, -$(CH_2)_4$-, -$(CH_2)_6$-, -$CH_2CH_2OCH_2CH_2$- and-CH_2-1,4-cyclohexylene-CH_2-.

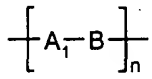
20. (Original) The method of claim 1 wherein said organic compound having the formula $X\text{-}B\text{-}X_1$ is selected from the group consisting of 1,2-ethandiol, dimethanesulfonate; 1,2-ethanediol bis(4-methylbenzenesulfonate); 1,4 butanediol, dimethane sulfonate; 1,6-hexanediol, dimethanesulfonate; 1,3-propanediol,2,2-dimethyl-, dimethanesulfonate; 1,4-cyclohexanedimethanol, dimethanesulfonate; 1,1,3,3-tetramethylcyclobutanediol, dimethanesulfonate, and ethanol 2,2'-oxybis-dimethanesulfonate.

21. (Original) The method of claim 1 wherein A of said light absorbing polymeric composition comprises 100 mole% of said light-absorbing monomer.

22. (Original) The method of claim 1 wherein said diacidic light absorbing monomer has a light absorption maximum between about 300 nm and about 1200 nm and is present in said light absorbing polymeric composition in an amount at least about 50% by weight %.

Claim 23

23. (Currently Amended) A light absorbing composition having the formula



wherein A_1 comprises the residue of at least one diacidic monomer having a light absorption maximum between about ~~300 nm~~ 325 nm and about ~~1200 nm~~ 1100 nm, and wherein B is a divalent organic radical

selected from the group consisting of C_2-C_{12} alkylene, C_3-C_8 cycloalkylene, C_1-C_4 alkylene- C_3- C_8-cycloalkylene- C_1-C_4 alkylene, C_1-C_4 alkylene-arylene- C_1-C_4 alkylene, and C_2- C_4-alkylene-L-arylene-L- C_2-C_4 alkylene and C_2-C_4 alkylene-(L- C_2-C_4 alkylene)$_{1-4}$, wherein L is a linking group selected from-O-, -S-, -SO_2-, -NH-, -N(C_1-C_6 alkyl)-, -N(aryl)-, -N(SO_2 C_1-C_6 alkyl)-, -N(SO_2aryl)-, -SO_2N(C_1-C_6 alkyl)- and combinations thereof; wherein n is at least 2 and wherein at least one of said diacidic monomer comprises at least about 50% by weight of the total composition.

24. (Original) A composition comprising a thermoplastic polymer blended with at least one light absorbing linear polymeric composition of claim 23.

25. (Original) The composition of claim 24 wherein said thermoplastic polymer is selected from the group consisting of polyesters, polyolefins, polyamides, polyimides, polyvinyl chloride, polyurethanes, polycarbonates, cellulose esters, polyacrylates, polyvinylesters, polyester-amides, polystyrene, polyacrylonitrile-butadiene- styrene, polystyrene-acrylonitrile and mixtures and blends thereof.

26. (Original) The composition of claim 23 wherein A_1 comprises the residue of at least one diacidic monomer having the structure

H-Y-H

wherein H represents an acidic hydrogen atom and Y is a divalent light-absorbing moiety selected from the chromophoric classes consisting of azo, disazo, triazo, bis-azo, methine, arylidene, polymethine, azo-methine, azamethine, anthraquinone, anthrapyridone (3H-dibenz[f,ij] isoquinoline-2,7-dione, nitroarylamines anthrapyridine (7H-dibenz[f,ij]isoquinoline-7-one, phthaloylphenothiazine (14H-naphth[2,3-a]phenothiazine-8,13-dione, benzanthrone (7H(de)anthracene-7-one), anthrapyrimidine (7H-benzo[e]perimidine-7-one), anthrapyrazole, anthraisothiazole, triphenodioxazine, thiaxanthene-9-one, fluorindine (5,12-dihydroquinoxaline [2,3-b]phenazine, quinophthalone,

phthalocyanine, metal phthalocyanine, naphthalocyanine, metal naphthalocyanine, nickel dithiolenes, squarylium compounds, croconium compounds, coumarin (2H-1-benzopyran-2-one), coumarin imine (2H-1-benzopyran-2-imine), perinone, benzodifuran, phthaloylacridone, phthaloylphenoxazine (14H-naphtho[2,3-a]phenoxazine-8,13-done, phthaloylacridone (13H-naphtho[2,3-c] acridine-5,8,14-trione), anthraquinonethioxanthane (8H-naphtho[2,3-c]thioxanthene-5,8,13-trione, anthrapyridazone, pyrrolo[3,4-c]pyrrole, indigo, thioindigo, quinoline, xanthene, acridine, azine, cyanines, oxazine, 1,4 and 1,5-naphthoquinones, 2,5-diarylaminoterephthalic acids and esters, pyromellitic acid dimide, naphthalene-1,4,5,8-tetracarboxylic acid diimide, 3,4,9,10-perylenetetracarboxylic acid diimide, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxopyrroline, arylisoindoline, hydroxybenzophenone, benoztriazole, naphthotriazole, diminoisoindoline, naphthopyran (3H-naphtho[2,1-6]pyran-3-one and 3-imine, phthalimides, 2-arylbenzazoles, carbostyryls, 1,2-diarylethenes, 2,5-diarylthiophenes, 2,5-diaryl-1,3,4-oxadiazoles, triazines, 2,5-diarylfurans, 2,5-diaryl-1,3,4-thiadiazoles, thiophenes, 1,3-diphenyl-2-pyrazolines, 2-arylbenzofurans, 2,6-diphenylbenzofurans, quinolines, quinoxalines, 3,4-diarylfuanones, distyrylarenes, benzanthrones, polyarenes and naphthalimides.

27. Cancelled.

28. (Original) The light absorbing linear polymeric composition of Claim 25 wherein A_1 comprises the residue of at least one diacidic monomer having at least one acidic group other than carboxy and having a light absorption maximum between about 300 nm and about 1200 nm and wherein B is a divalent organic radical selected from C_2-C_{12} alkylene, C_3-C_8 cycloalkylene, C_1-C_4 alkylene-C_3- C_8-cycloalkylene- C_1-C_4 alkylene, C_1-C_4 alkylene-arylene- C_1-C_4 alkylene, and C_2- C_4-alkylene-L-arylene-L- C_2-C_4 alkylene and C_2-C_4 alkylene-(L-C_2-C_4 alkylene)$_{1-4}$, wherein L is a linking group selected from-O-, -S-, -SO_2-, -NH-, -N(C_1-C_6 alkyl)-, -N(aryl-, -N(SO_2 C_1-C_6 alkyl)-, -(SO_2aryl)-, -SO_2N(C_1-C_6 alkyl)- and combinations thereof; wherein n is at least 2.

29. (Original) The process of claim 2 wherein said light absorbing monomer comprises two carboxy groups as acidic functional groups.

30. (Original) The process of claim 2 wherein said light absorbing monomer comprises two 1(H)-1,2,4-triazol-3-ylthio groups as acidic functional groups.

31. (Original) The process of claim 2 wherein said light absorbing monomer comprises one carboxy and one 1(H)-1,2,4-triazol-3-ylthio group as acidic functional groups.

32. (Original) The process of claim 2 wherein said light absorbing monomer comprises two hydroxy groups attached to aromatic ring(s).

33. (Original) The process of claim 2 wherein said light absorbing monomer comprises one imide group and one carboxy group.

34. (Original) The process of claim 2 wherein said light absorbing monomer comprises one imide group and one 1(H)-1,2,4-triazol-3-ylthio group.

35. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two carboxy groups as acidic functional groups.

36. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two 1(H)-1,2,4-triazol-3-ylthio groups as acidic functional groups.

37. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises one carboxy and one 1(H)-1,2,4-triazol-3-ylthio group as acidic functional groups.

38. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two hydroxy groups attached to aromatic ring(s).

39. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises one imide group and one carboxy group.

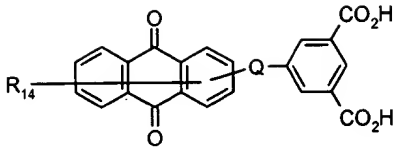
40. (Original) The composition of claim 23 wherein said light absorbing monomer comprises one imide group and one 1(H)-1,2,4-triazol-3-ylthio group.

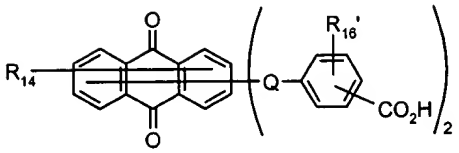
41. (Original) The composition of claim 23 wherein said light absorbing monomer comprises a diacidic sulfamoyl ($-SO_2NH_2$) group.

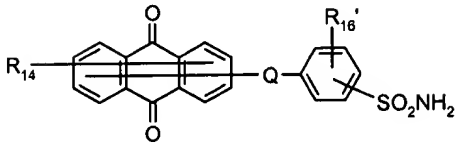
42. (Currently Amended) The composition of claim ~~25~~ 23 wherein said light absorbing monomer comprises two acidic groups independently selected from the group consisting of $-CO_2H$, SH, hydroxy attached to an aromatic ring, -CONHCO- (imide), $-SO_2NHCO-$, $-SO_2NHSO_2-$, 1(H)-1,2,4-triazolyl-3-yl-, imidazolyl, benzimidazolyl, pyrazolyl, $-SO_2H$ attached to an aromatic ring, $-NHSO_2R_5$ and $-SO_2NHR_5$, wherein R_5 is selected from the group consisting of C_1-C_6 alkyl; C_1-C_6 alkyl substituted with at least one group selected from C_1-C_6 alkoxy, aryl, aryloxy, arylthio and C_3-C_8 cycloalkyl; C_3-C_8 cycloalkyl; aryl.

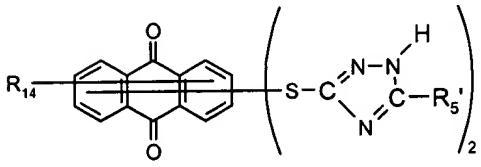
Claims 43 - 51 (Cancelled).

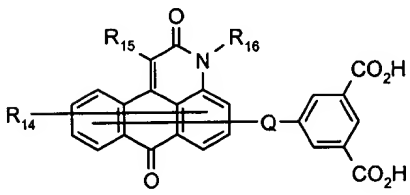
52. (Currently Amended) The composition of claim ~~51~~ 26 wherein the light absorbing portion of ~~A~~ A_1 comprises the residue of at least one diacidic light absorbing monomer selected from the group consisting of the anthraquinone and anthrapyridone colorants having the structures:

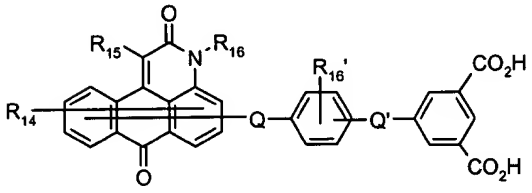


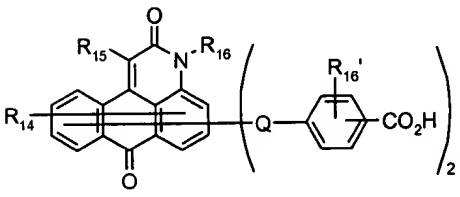


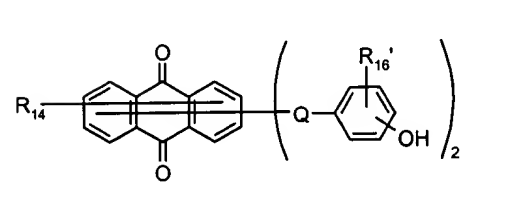


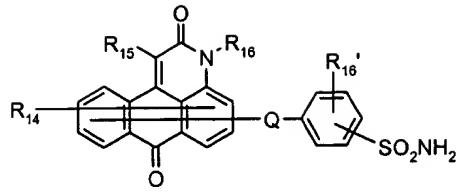


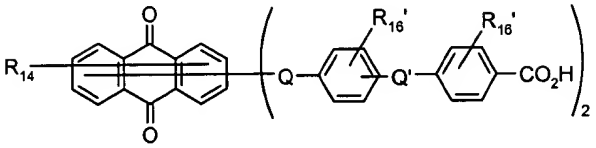


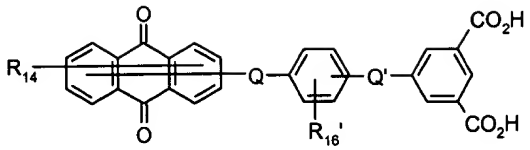


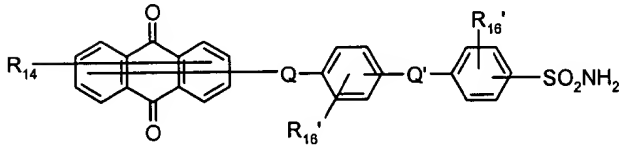


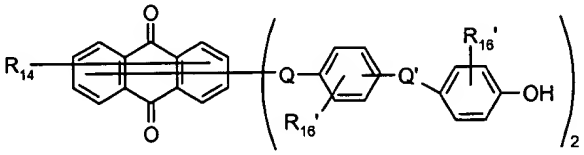




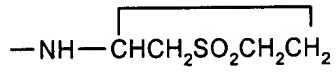








wherein R_{14} is selected from the group consisting of hydrogen and 1-4 groups selected from amino, C_1-C_{10} alkylamino, C_3-C_8 alkenylamino, C_3-C_8 alkynylamino, C_3-C_8 cycloalkylamino, arylamino, halogen, C_1-C_6 alkoxy, C_1-C_6 alkylthio, aryl, aroyl, C_1-C_6 alkanoyl, C_1-C_6 alkanoyloxy, NHCO C_1-C_6 alkyl, NHCOaryl, $NHCO_2$ C_1-C_6 alkyl, $NHSO_2$ C_1-C_6 alkyl, $NHSO_2$ aryl, C_1-C_6 alkoxycarbonyl, aryloxy, arylthio, heteroarylthio, cyano, nitro, trifluoromethyl, thiocyano, SO_2 C_1-C_6 alkyl, SO_2 aryl, $-SO_2NH$ C_1-C_6 alkyl, $-SO_2N(C_1$-C_6 alkyl$)_2$, $-SO_2N(C_1$-C_6 alkyl) aryl, CONH C_1-C_6 alkyl, $CON(C_1$-C_6 alkyl$)_2$, $CON(C_1$-C_6 alkyl) aryl, C_1-C_6 alkyl, furfurylamino, tetrahydrofurfurylamino, 4-(hydroxymethyl) cyclohexanemethylamino,



or hydroxy; Q and Q' are independently selected from the group consisting of -O-, $-N(COR_{10})-$, $-N(SO_2R_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $-CON(R_{10})-$, $SO_2N(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl, or C_1-C_{10} alkyl; R_{15} is selected from the group consisting of hydrogen, cyano, C_1-C_6 alkylamino, C_1-C_6 alkoxy, halogen, arylthio, aryl, heteroaryl, heteroarylthio, C_1-C_6 alkoxycarbonyl, aroyl or arylsulfonyl; R_{16} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl and aryl; R_{16}' is selected from the group consisting of hydrogen, C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; wherein each C_1-C_6 alkyl group and C_1-C_6 alkyl group which is a portion of another group may contain at least one substituent selected from the group consisting of hydroxy, cyano, chlorine, fluorine, C_1-C_6 alkoxy, C_3-C_8 cycloalkoxy, C_1-C_6 alkylcyclohexyl, hydroxmethyl cyclohexyl, aryl and heteroaryl; with the provision that two acidic groups containing one acidic proton each or one acidic group containing two acidic hydrogens be present in the diacidic compounds.

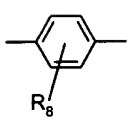
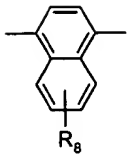
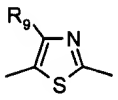
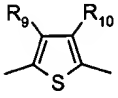
C1

53. (Currently Amended) The composition of claim 26 ~~or 27~~ wherein the light absorbing portion of A_1 comprises the residue of at least one light absorbing monomer selected from the group consisting of azo, disazo, bis-azo and azomethine and having respectively the structures:

$$R_6\text{-}N{=}N\text{-}Z,\quad R_6\text{-}N{=}N\text{-}R_7\text{-}N{=}N\text{-}Z,\quad R_6\text{-}N{=}N\text{-}Y_1\text{-}N{=}N\text{-}R_6 \text{ and}$$
$$D{=}HC\text{-}N{=}N\text{-}Z$$

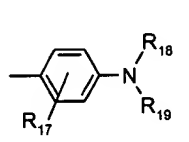
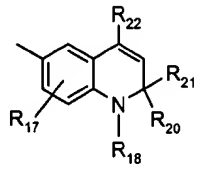
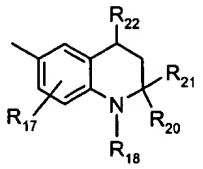
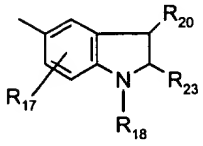
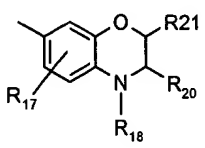
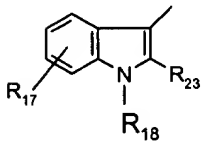
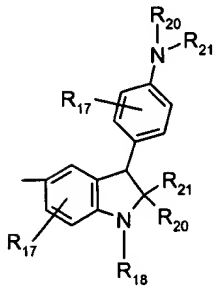
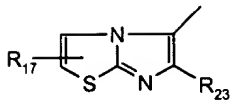
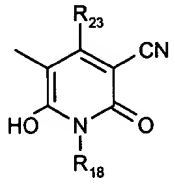
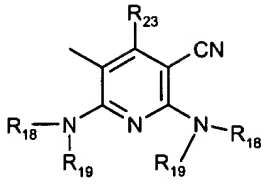
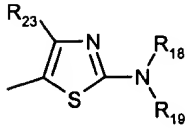
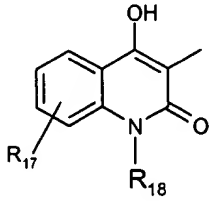
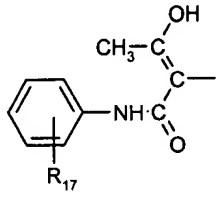
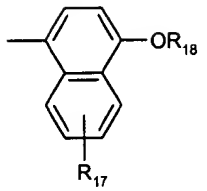
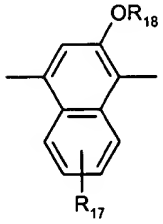
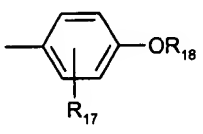
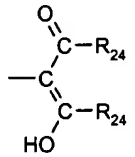
wherein R_6 is the residue of an aromatic or heteroaromatic amine which has been diazotized and coupled with a coupling component H-Z and is derived from an amine selected from the group consisting of aromatic and heteroaromatic amine classes selected from the group consisting of aniline, 1-aminonaphthalene, 1-aminoanthraquinone, 4-aminoazobenzene, 2-aminothiazole, 2-aminobenzothiazole, 3-amino-2,1-benzisothiazole, 2-aminothieno[2,3-d]thiazole, 5-aminoisothiazole, 5-aminopyrazole, 4-aminopyrazoloisothiazole, 2-amino-1,3,4-thiadiazole, 5-amino-1,2,4-thiadiazole, 5-amino-1,2,3-triazole, 2-amino-1,3,4-triazole, 2(5) aminoimidazole, 3-aminopyridine, 2(3) aminothiophene, 2(3) aminobenzo[b]thiophene,

2-aminothieno[3,2-b]thiophene, 3-aminothieno[2,3-c]isothiazole, 3-amino-7-benz- 2,1-isothiazole, 3-aminobenzothienoisothiazole, 3-aminoisothiazole[3,4-d]pyrimidine, 5-amino- 1,2,3-triazole, 3(4) aminophthalimide and 5(6) amino-1,2-benzisothiazolon-1,1-dioxide with said aromatic and heteroaromatic ring systems being unsubstituted or substituted with one or more groups selected from C_1-C_{10} alkyl, C_1-C_6 alkoxy, C_3-C_8 cycloalkyl, carboxy, halogen, C_1-C_6 alkoxycarbonyl, formyl, C_1-C_6 alkanoyl, C_1-C_6 alkanoyloxy, dicyanovinyl, C_3-C_8-cycloalkanoyl, thiocyano, trifluroacetyl, cyano, carbamoyl, -CONH-C_1-C_6 alkyl, CONHaryl, CON(C_1-C_6 alkyl)$_2$, sulfamoyl, SO_2NH C_1-C_6 alkyl, SO_2N(C_1-C_6 alkyl)$_2$, SO_2NHaryl, SO_2NH C_3-C_8 cycloalkyl, CONH C_3-C_8 cycloalkyl, aryl, aroyl, -$NHSO_2$ C_1-C_6 alkyl, -N(C_1-C_6 alkyl)SO_2 C_1-C_6 alkyl, -$NHSO_2$ aryl, NHCO C_1-C_6 alkyl, NHCO C_3-C_8 cycloalkyl, NHCOaryl, $NHCO_2$ C_1-C_6 alkyl, NHCONH C_1-C_6 alkyl, NHCONHaryl, N(C_1-C_6 alkyl)aryl, arylazo, heteroaryl, aryloxy, arylthio, C_3-C_8 cycloalkoxy, heteroarylazo, heteroarylthio, arylsulfonyl, tricyanovinyl, aryloxysulfonyl, C_1-C_6 alkylsulfonyl, trifluoromethyl, fluorosulfonyl, trifluoromethylsulfonyl, thiocyano, hydroxy, nitro or CH=D, wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C_1-C_6 alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C_1-C_6 alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-$C(CH_3)C=C(CN)_2$; wherein R_7 is a divalent aromatic or heteroaromatic radical selected from the group consisting of 1,4-phenylene, naphthalene-1,4-diyl, thiazol-2,5-diyl and thiophene-2,5-diyl:

wherein R_8 is selected from the group consisting of hydrogen or 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, cyano, halogen, -NHCO C_1-C_6 alkyl, -$NHCO_2$ C_1-C_6 alkyl, -NHCO aryl, -NHCONH aryl or NHCONH C_1-C_6 alkyl; R_9 is selected from the group consisting of hydrogen, C_1-C_6 alkyl, halogen, aryl, heteroaryl; R_{10} is selected from the group consisting of hydrogen, C_1-C_6 alkoxycarbonyl, cyano, carbamoyl, aryl, arylsulfonyl, aroyl, -CONH C_1-C_6 alkyl, or C_1-C_6 alkylsulfonyl; wherein Z is the residue of a coupling compound selected from the group consisting of electron rich compound classes of anilines, 1-aminonaphthalenes, 1,2-dihydroquinolines,1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro-2H-1,4-benzoxazine), pyrazolones, pyrazoles, 3-cyano-6-hydroxy-2-pyridones, 2,3-dihydroindoles, indoles, 4-hydroxycoumarins, 4-hydroxy-2-quinolones, imidazo[2,1-b]thiazoles, julolidines (2,3,6,7-tetrahydro-1H,5H-benzo[ij]quinolizines), 1-oxajulolidines, 1,2,5,6-tetrahydro-4H-pyrrolo[3,2,1-ij]quinolines, 2,6-diamino-3 cyanopyridines, 2-aminothiazoles, 2-aminothiophenes, 5,5-dimethyl-1,3-cyclohexanedione (dimedone), phenols, naphthols, 2,4-pentanediones or acetoacetarylides; wherein Y_1 is the residue of a bis coupling component selected from the group consisting of anilines, 1,2-dihydroquinolines, 1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro- 2H-1,4-benzoxazines), 3-cyano-6-hydroxy-2-pyridones, 2,6-diaminopyridines, 2,3-dihydroindoles, naphthylamines, 2-aminothiazoles, or a combination of these; with the provision that two acidic functional groups containing one acidic hydrogen each or a functional group containing two acidic hydrogen are present in the diacidic light absorbing monomer.

54. (Original) The composition of claim 53 wherein Z is selected from the group consisting of: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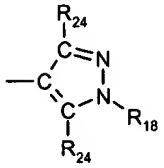
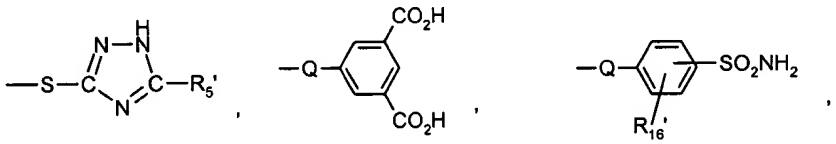
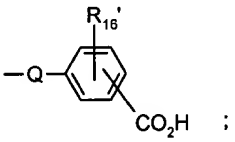
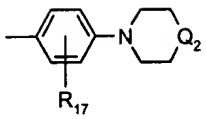


wherein R_{17} is selected from the group consisting of hydrogen, 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene- C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl, trifluoromethyl,$NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$, wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl, R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl, cyano, hydroxy, succinimido, C_1-C_6 alkoxy,



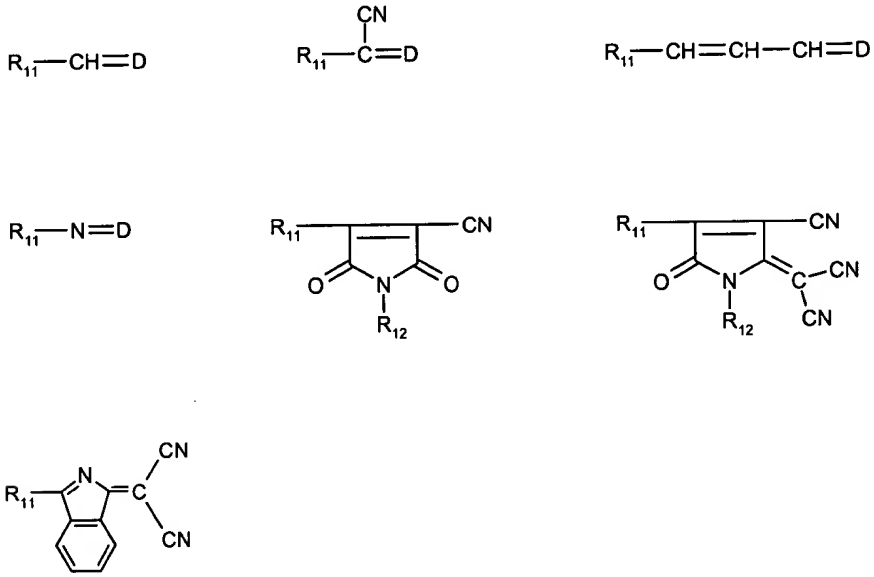
or  ;

wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from hydrogen or one or two groups selected from C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, $-N(COR_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $-CON(R_{10})$, $-SO_2(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} and R_{19} are independently selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl or R_{18} and R_{19} may be combined with another element to which they are attached to form a radical Z having the formula



wherein Q_2 is selected from the group consisting of a covalent bond, -O-, -S-, $-SO_2-$, -CO-, $-CO_2-$, -N-(C_1-C_6 alkyl)-, -N(COC_1-C_6 alkyl)-, -N(SO_2C_1-C_6 alkyl)-, -N(CO aryl)-, or-N(SO_2 aryl); R_{20}, R_{21} and R_{22} are independently selected from the group consisting of hydrogen or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl.

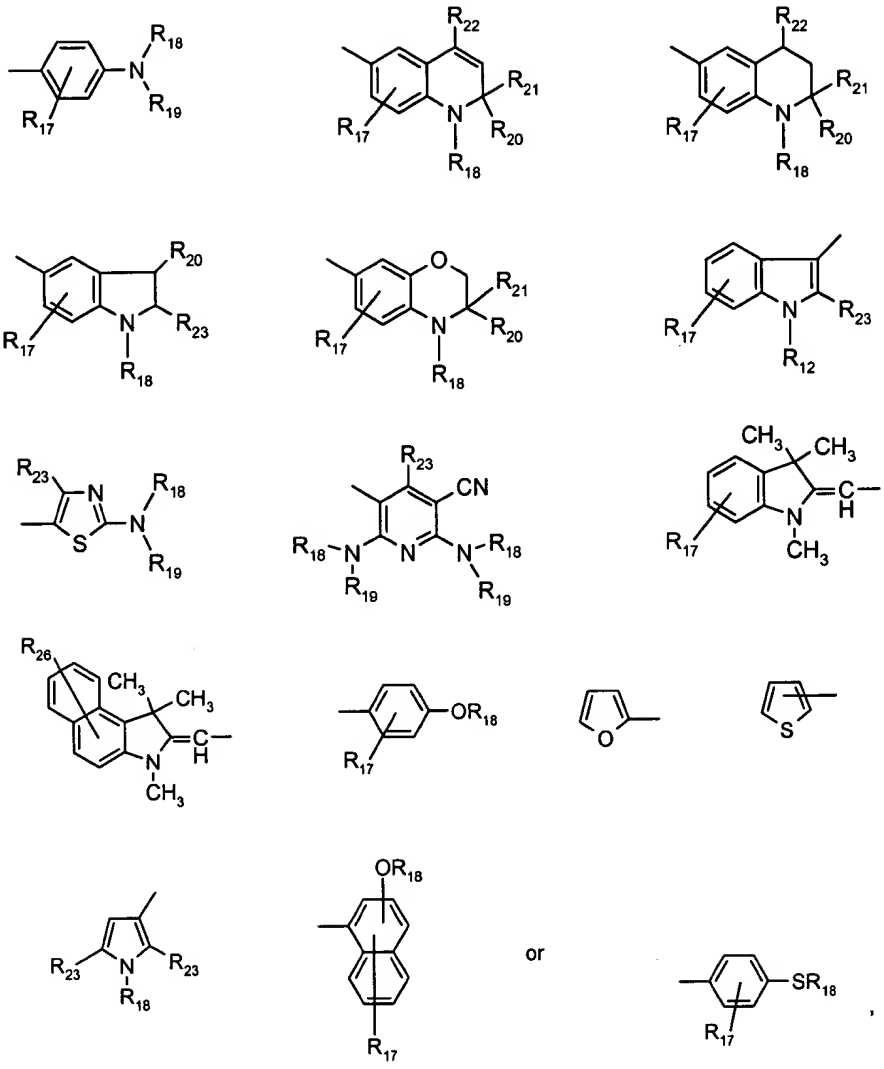
55. (Currently Amended) The composition of claim 26 ~~or 51~~ wherein the light absorbing portion of ~~A~~ A_1 comprises the residue of at least one light absorbing monomer selected from the group consisting of methine, arylidene, polmethine, azamethine, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxypyrroline and arylisoindoline and having respectively the structures:



wherein R_{11} is the residue of an electron rich aromatic compound selected from the group consisting of an aniline, 1-naphthylamine, 1,2-dihydroquinoline, 1,2,3,4-tetrahydroquinoline, 1,3,3-trimethyl-2-methyleneindole, 1,3-dihydro-2-methylene- 1,1,3-trimethyl-2H-benz[e]indole, imidazo [2,1-b] thiazole, benzomorpholine (3,4-

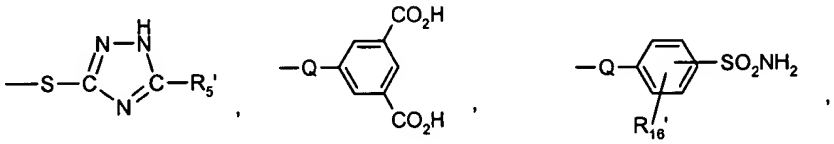
dihydro-2H-1,4,benzoxazine), 2,3-dihydroindole, indole, 2-aminothiazole, julolidine (2,3,6,7-tetrahydro-1H, 5H- benz [ij] quinolizine, 1-oxajulolidine, 4H-pyrrolo [3,2,1-ij]-quinoline, phenol, naphthol, thiophenol, pyrrole, pyrazole, furan, thiophene, carbazole, phenothiazine or phenoxazine compound; R_{12} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 alkenyl, C_3- C_8-alkynyl, C_3-C_8 cycloalkyl, aryl, $(CH_2CH_2O)_{1-3}$ R_{13} and C_1-C_4 alkylene- C_3-C_8 cycloalkylene, wherein the C_1-C_6 alkyl groups may be substituted by at least one group selected from the group consisting of carboxy, C_1-C_6 carbalkoxy, C_1-C_6 alkanoyloxy, cyano, hydroxy, chlorine, fluorine, C_1-C_6 alkoxy, C_3-C_8 cycloalkyl or aryl; R_{13} is selected from the group consisting of hydrogen, C_1-C_6 alkoxy or C_1-C_6 alkanoyloxy; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C_1-C_6 alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C_1-C_6 alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-$C(CH_3)C=C(CN)_2$, with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

56. (Original) The composition of claim 55 wherein R_{11} is selected from the group consisting of the electron rich aromatic residues corresponding to the structures:

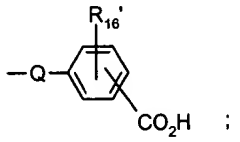


wherein R_{26} is selected from the group consisting of hydrogen or a group selected from the group consisting of C_1-C_6 alkoxycarbonyl, CO_2H, C_1-C_6 alkyl or C_1-C_6 alkoxy; wherein R_{17} is selected from the group consisting of hydrogen, and 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene- C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl, trifluoromethyl,$NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$, wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl, R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one

or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl,

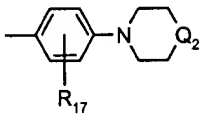


or



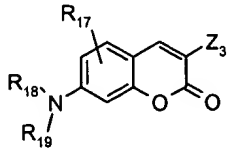
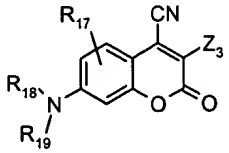
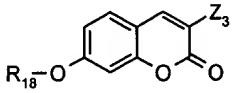
;

wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from the group consisting of hydrogen, one or two groups selected from C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, $-N(COR_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $CON(R_{10})$, $SO_2(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} and R_{19} are independently selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl or R_{18} and R_{19} may be combined with another element to which they are attached to form a radical Z having the formula

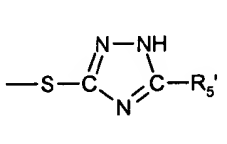


wherein Q_2 is selected from the group consisting of a covalent bond, -O-, -S-, $-SO_2-$, -CO-, $-CO_2-$, $-N-(C_1$-C_6 alkyl)-, $-N(CO$ C_1-C_6 alkyl)-, $-N(SO_2$ C_1-C_6 alkyl)-, $-N(CO$ aryl)-, or-$N(SO_2$ aryl); R_{20}, R_{21} and R_{22} are independently selected from the group consisting of hydrogen or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl.

57. (Currently Amended) The composition of claim ~~51~~ 26 wherein the light absorbing portion of A_1 comprises a residue of at least one diacidic coumarin compounds selected from the group consisting of the structures

wherein Z_3 is selected from the group consisting of cyano, C_1-C_6 alkoxycarbonyl, C_1-C_6 alkylsulfonyl, arylsulfonyl, aryl, heteroaryl, formyl, aroyl, C_1-C_6 alkanoyl or-CH=D, wherein R_{17} is selected from the group consisting of hydrogen, 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene- C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl, trifluoromethyl,$NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$, wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl, R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl, cyano, hydroxy, succinimido, C_1-C_6 alkoxy,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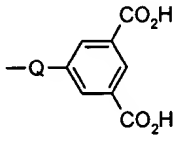
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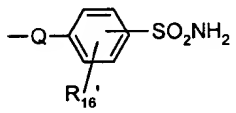
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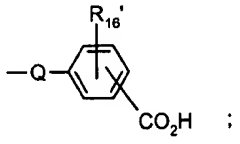
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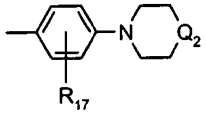
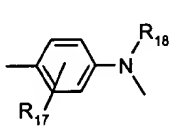
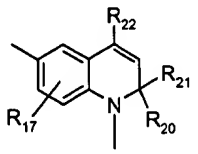
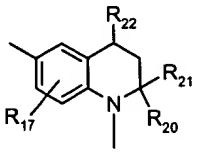
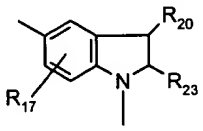
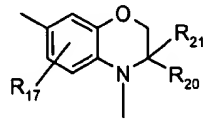
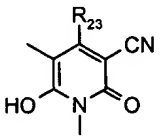
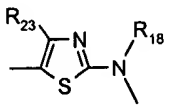
wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from hydrogen or one or two groups selected from C_1-C_6 alkyl, halogen, and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, $-N(COR_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $CON(R_{10})$, $SO_2(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} and R_{19} are independently selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl or R_{18} and R_{19} may be combined with another element to which they are attached to form a radical Z having the formula



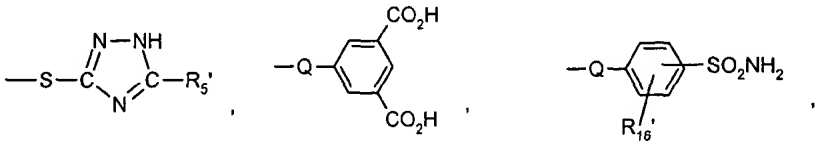
wherein Q_2 is selected from the group consisting of a covalent bond, -O-, -S-, $-SO_2-$, -CO-, $-CO_2-$, $-N-(C_1$-C_6 alkyl)-, $-N(CO\ C_1$-C_6 alkyl)-, $-N(SO_2\ C_1$-C_6 alkyl)-, -N(CO aryl)-, or-$N(SO_2$ aryl); R_{20}, R_{21} and R_{22} are independently selected from the group consisting of or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C_1-C_6 alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C_1-C_6 alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-$C(CH_3)C{=}C(CN)_2$, with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

58. (Original) The composition of claim 54 wherein the light absorbing portion of A_1 comprises the residue of at least one bis-azo light absorbing monomer wherein the bis coupling component Y_1 is represented by the structure Z_1-L_1-Z_2, wherein Z_1 and Z_2 are independently selected from the group consisting of







or 
;

wherein, L_1 is bonded to the nitrogen atom of Z_1 and Z_2; wherein L_1 is selected from the group consisting of C_2-C_{12} alkylene, C_3-C_8 cycloalkylene, arylene, C_1-C_4 alkylene- C_3-C_8 cycloalkylene- C_1-C_4 alkylene, C_1-C_4 alkylene-arylene- C_1-C_4 alkylene, C_2-C_4 alkylene-O-arylene-O- C_2-C_4 alkylene, $\{C_2$-C_4 alkylene $O\}_{1-3}$ C_2-C_4 alkylene, C_2-C_4 alkylene- S- C_2-C_4 alkylene, C_2-C_4 alkylene-SO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-N(SO_2 C_1-C_6 alkyl)- C_2-C_4 alkylene, C_2-C_4 alkylene-N(SO_2 aryl)- C_2- C_4- alkylene, C_2-C_4 alkylene- OCO_2- C_2-C_4 alkylene, C_2-C_4 alkylene- O_2C-arylene-CO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-O_2C- C_1-C_{12} alkylene-CO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-O_2C- C_3-C_8 cycloalkylene-CO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-NHCO- C_2-C_4 alkylene and C_2-C_4 alkylene-$NHSO_2$- C_2-C_4 alkylene; wherein R_{17} is selected from the group consisting of hydrogen, 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene-C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl, trifluoromethyl,$NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$,

wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl, R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl, cyano, hydroxy, succinimido, C_1-C_6 alkoxy,



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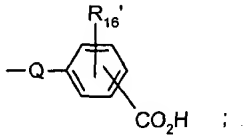

;

wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from hydrogen or one or two groups selected from C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, -N(COR_{10})-, -N(R_{10})-, -S-, -SO_2-, -CO_2-, CON(R_{10}), SO_2(R_{10})-, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} is selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl; R_{20}, R_{21} R_{22} are independently selected from the group consisting of or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl.

Claims 59 - 108 (Cancelled).

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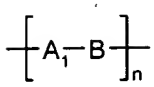
109. (New) A light absorbing composition having the formula



wherein A_1 consists essentially of at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm, and wherein B is a divalent organic radical selected from the group consisting of C_2-C_{12} alkylene, C_3-C_8 cycloalkylene, C_1-C_4 alkylene- C_3- C_8-cycloalkylene- C_1-C_4 alkylene, C_1-C_4 alkylene-arylene- C_1-C_4 alkylene, and C_2- C_4-alkylene-L-arylene-L- C_2-C_4 alkylene and C_2-C_4 alkylene-(L- C_2-C_4 alkylene)$_{1-4}$, wherein L is a linking group selected from-O-, -S-, -SO_2-, -NH-, -N(C_1-C_6 alkyl)-, -N(aryl)-, -N(SO_2 C_1-C_6 alkyl)-, -N(SO_2aryl)-, -SO_2N(C_1-C_6 alkyl)- and combinations thereof; wherein n is at least 2.

110. (New) A composition comprising a thermoplastic polymer blended with at least one light absorbing linear polymeric composition of claim 109.

111. (New) The composition of claim 110 wherein said thermoplastic polymer is selected from the group consisting of polyesters, polyolefins, polyamides, polyimides, polyvinyl chloride, polyurethanes, polycarbonates, cellulose esters, polyacrylates, polyvinylesters, polyester-amides, polystyrene, polyacrylonitrile-butadiene- styrene, polystyrene-acrylonitrile and mixtures and blends thereof.

112. (New) The light absorbing linear polymeric composition of Claim 111 wherein A_1 comprises the residue of at least one diacidic monomer having at least one acidic group other than carboxy and having a light absorption maximum between about 300 nm and about 1200 nm and wherein B is a divalent organic radical selected from C_2-C_{12} alkylene, C_3-C_8 cycloalkylene, C_1-C_4 alkylene-C_3- C_8-cycloalkylene- C_1-C_4 alkylene, C_1-C_4 alkylene-arylene- C_1-C_4 alkylene, and C_2- C_4-alkylene-L-arylene-L- C_2-C_4 alkylene and C_2-C_4 alkylene-(L-C_2-C_4 alkylene)$_{1-4}$, wherein L is a linking group selected from-O-, -S-, -SO_2-, -NH-, -N(C_1-C_6 alkyl)-, -N(aryl-, -N(SO_2 C_1-C_6

alkyl)-, -(SO_2aryl)-, -$SO_2N(C_1$-C_6 alkyl)- and combinations thereof; wherein n is at least 2.

113. (New) The composition of claim 109 wherein each residue of diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm has the structure

H-Y-H

wherein H represents an acidic hydrogen atom and Y is a divalent light-absorbing monomer selected from the chromophoric classes consisting of azo, disazo, triazo, bis-azo, methine, arylidene, polymethine, azo-methine, azamethine, anthraquinone, anthrapyridone (3H-dibenz[f,ij] isoquinoline-2,7-dione, nitroarylamines anthrapyridine (7H-dibenz[f,ij]isoquinoline-7-one, phthaloylphenothiazine (14H-naphth[2,3-a]phenothiazine-8,13-dione, benzanthrone (7H(de)anthracene-7-one), anthrapyrimidine (7H-benzo[e]perimidine-7-one), anthrapyrazole, anthraisothiazole, triphenodioxazine, thiaxanthene-9-one, fluorindine (5,12-dihydroquinoxaline [2,3-b]phenazine, quinophthalone, phthalocyanine, metal phthalocyanine, naphthalocyanine, metal naphthalocyanine, nickel dithiolenes, squarylium compounds, croconium compounds, coumarin (2H-1-benzopyran-2-one), coumarin imine (2H-1-benzopyran-2-imine), perinone, benzodifuran, phthaloylacridone, phthaloylphenoxazine (14H-naphtho[2,3-a]phenoxazine-8,13-done, phthaloylacridone (13H-naphtho[2,3-c] acridine-5,8,14-trione), anthraquinonethioxanthane (8H-naphtho[2,3-c]thioxanthene-5,8,13-trione, anthrapyridazone, pyrrolo[3,4-c]pyrrole, indigo, thioindigo, quinoline, xanthene, acridine, azine, cyanines, oxazine, 1,4 and 1,5-naphthoquinones, 2,5-diarylaminoterephthalic acids and esters, pyromellitic acid dimide, naphthalene-1,4,5,8-tetracarboxylic acid diimide, 3,4,9,10-perylenetetracarboxylic acid diimide, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxopyrroline, arylisoindoline, hydroxybenzophenone, benoztriazole, naphthotriazole, diminoisoindoline, naphthopyran (3H-naphtho[2,1-6]pyran-3-one and 3-imine, phthalimides, 2-arylbenzazoles, carbostyryls, 1,2-diarylethenes, 2,5-diarylthiophenes, 2,5-diaryl-1,3,4-oxadiazoles, triazines, 2,5-diarylfurans, 2,5-diaryl-1,3,4-thiadiazoles,

thiophenes, 1,3-diphenyl-2-pyrazolines, 2-arylbenzofurans, 2,6-diphenylbenzofurans, quinolines, quinoxalines, 3,4-diarylfuanones, distyrylarenes, benzanthrones, polyarenes and naphthalimides.

114. (New) The composition of claim 109 wherein said light absorbing monomer comprises two carboxy groups as acidic functional groups.

115. (New) The composition of claim 109 wherein said light absorbing monomer comprises two 1(H)-1,2,4-triazol-3-ylthio groups as acidic functional groups.

116. (New) The composition of claim 109 wherein said light absorbing monomer comprises one carboxy and one 1(H)-1,2,4-triazol-3-ylthio group as acidic functional groups.

117. (New) The composition of claim 109 wherein said light absorbing monomer comprises two hydroxy groups attached to aromatic ring(s).

118. (New) The composition of claim 109 wherein said light absorbing monomer comprises one imide group and one carboxy group.

119. (New) The composition of claim 109 wherein said light absorbing monomer comprises one imide group and one 1(H)-1,2,4-triazol-3-ylthio group.

120. (New) The composition of claim 109 wherein said light absorbing monomer comprises a diacidic sulfamoyl ($-SO_2NH_2$) group.

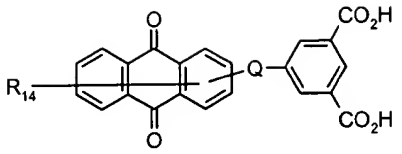
121. (New) The composition of claim 109 wherein said light absorbing monomer comprises two acidic groups independently selected from the group consisting of $-CO_2H$, SH, hydroxy attached to an aromatic ring, -CONHCO- (imide), $-SO_2NHCO-$, $-SO_2NHSO_2-$, 1(H)-1,2,4-triazolyl-3-yl-, imidazolyl, benzimidazolyl, pyrazolyl, $-SO_2H$ attached to an aromatic ring, $-NHSO_2R_5$ and-SO_2NHR_5, wherein R_5 is selected from the group consisting of C_1-C_6 alkyl; C_1-C_6 alkyl

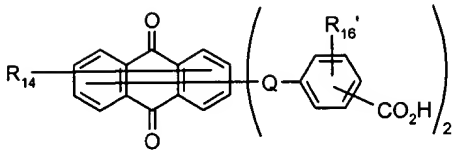
substituted with at least one group selected from C_1-C_6 alkoxy, aryl, aryloxy, arylthio and C_3-C_8 cycloalkyl; C_3-C_8 cycloalkyl; aryl.

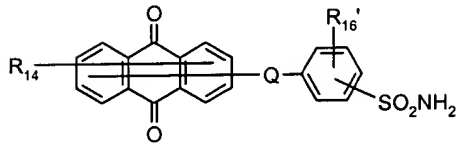
122. (New) The light absorbing linear polymeric composition of claim 109 wherein said at least one diacidic monomer comprises at least about 50% by weight of the total composition.

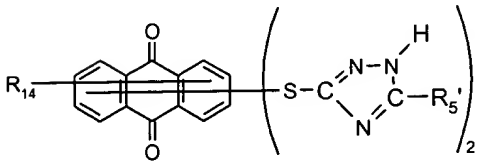
C2

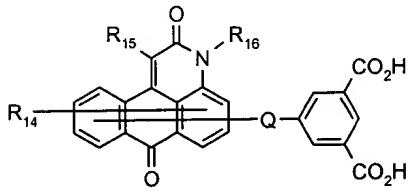
123. (New) The composition of claim 113 wherein the at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one diacidic light absorbing monomer selected from the group consisting of the anthraquinone and anthrapyridone colorants having the structures:

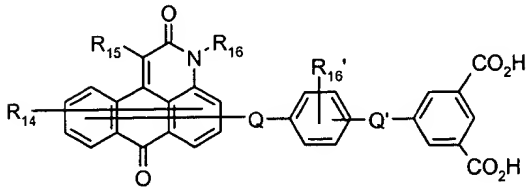


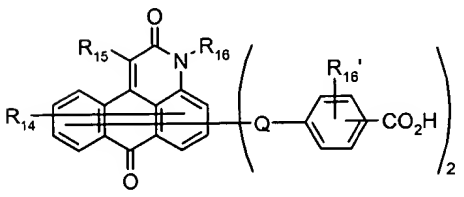


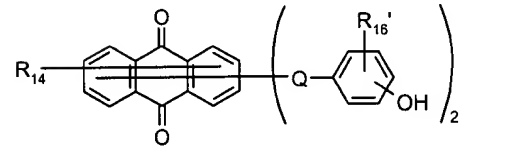


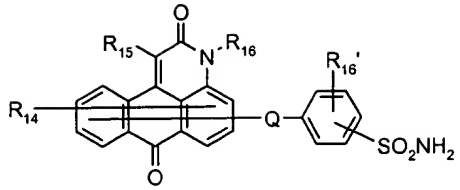


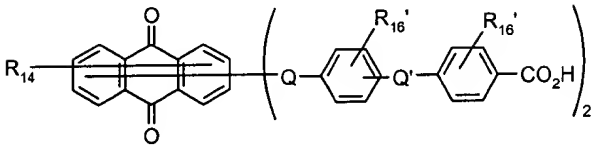


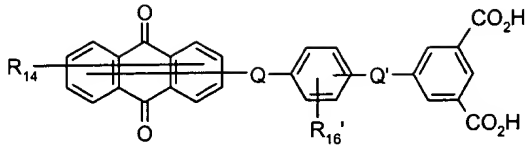


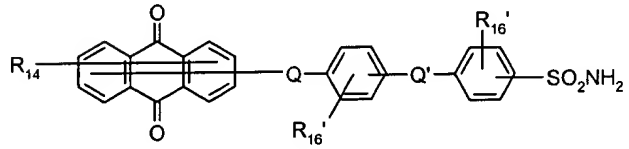


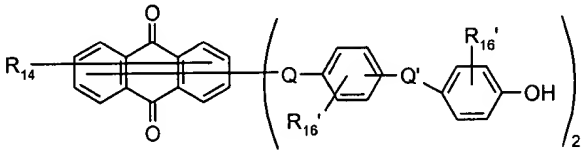




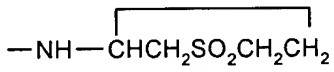








wherein R_{14} is selected from the group consisting of hydrogen and 1-4 groups selected from amino, C_1-C_{10} alkylamino, C_3-C_8 alkenylamino, C_3-C_8 alkynylamino, C_3-C_8 cycloalkylamino, arylamino, halogen, C_1-C_6 alkoxy, C_1-C_6 alkylthio, aryl, aroyl, C_1-C_6 alkanoyl, C_1-C_6 alkanoyloxy, NHCO C_1-C_6 alkyl, NHCOaryl, $NHCO_2$ C_1-C_6 alkyl, $NHSO_2$ C_1-C_6 alkyl, $NHSO_2$ aryl, C_1-C_6 alkoxycarbonyl, aryloxy, arylthio, heteroarylthio, cyano, nitro, trifluoromethyl, thiocyano, SO_2 C_1-C_6 alkyl, SO_2 aryl, $-SO_2NH$ C_1-C_6 alkyl, $-SO_2N(C_1$-C_6 alkyl$)_2$, $-SO_2N(C_1$-C_6 alkyl) aryl, CONH C_1-C_6 alkyl, $CON(C_1$-C_6 alkyl$)_2$, $CON(C_1$-C_6 alkyl) aryl, C_1-C_6 alkyl, furfurylamino, tetrahydrofurfurylamino, 4-(hydroxymethyl) cyclohexanemethylamino,



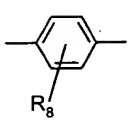
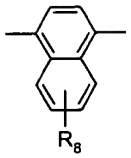
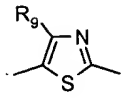
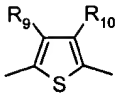
or hydroxy; Q and Q' are independently selected from the group consisting of-O-, $-N(COR_{10})-$, $-N(SO_2R_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $-CON(R_{10})-$, $SO_2N(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl, or C_1-C_{10} alkyl; R_{15} is selected from the group consisting of hydrogen, cyano, C_1-C_6 alkylamino, C_1-C_6 alkoxy, halogen, arylthio, aryl, heteroaryl, heteroarylthio, C_1-C_6 alkoxycarbonyl, aroyl or arylsulfonyl; R_{16} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl and aryl; R_{16}' is selected from the group consisting of hydrogen, C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; wherein each C_1-C_6 alkyl group and C_1-C_6 alkyl group which is a portion of another group may contain at least one substituent selected from the group consisting of hydroxy, cyano, chlorine, fluorine, C_1-C_6 alkoxy, C_3-C_8 cycloalkoxy, C_1-C_6 alkylcyclohexyl, hydroxmethyl cyclohexyl, aryl and heteroaryl; with the provision that two acidic groups containing one acidic proton each or one acidic group containing two acidic hydrogens be present in the diacidic compounds.

124. (New) The composition of claim 113 wherein at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one light absorbing monomer selected from the group consisting of azo, disazo, bis-azo and azomethine and having respectively the structures:

$$R_6\text{-}N{=}N\text{-}Z,\ R_6\text{-}N{=}N\text{-}R_7\text{-}N{=}N\text{-}Z,\ R_6\text{-}N{=}N\text{-}Y_1\text{-}N{=}N\text{-}R_6 \text{ and}$$
$$D{=}HC\text{-}N{=}N\text{-}Z$$

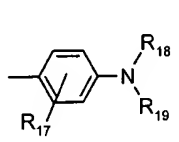
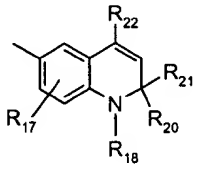
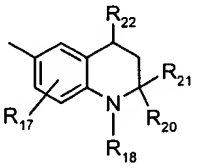
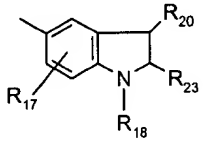
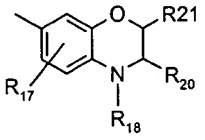
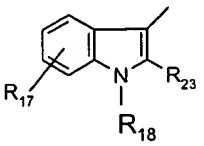
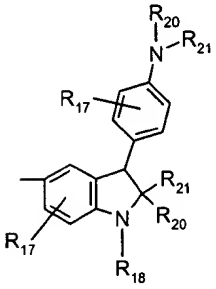
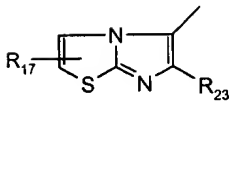
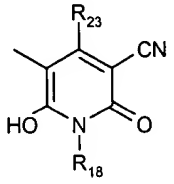
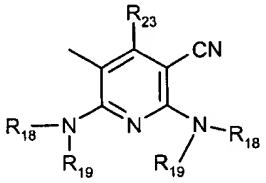
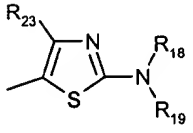
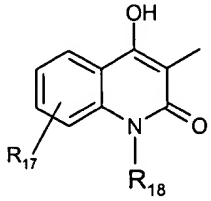
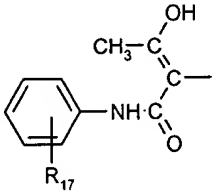
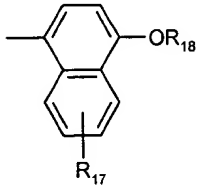
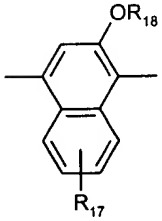
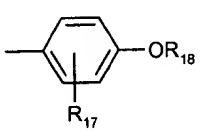
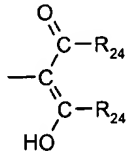
wherein R_6 is the residue of an aromatic or heteroaromatic amine which has been dizaotized and coupled with a coupling component H-Z and is derived from an amine selected from the group consisting of aromatic and heteroaromatic amine classes selected from the group consisting of aniline, 1-aminonaphthalene, 1-aminoanthraquinone, 4-aminoazobenzene, 2-aminothiazole, 2-aminobenzothiazole, 3-amino-2,1-benzisothiazole, 2-aminothieno[2,3-d]thiazole, 5-aminoisothiazole, 5-aminopyrazole, 4-aminopyrazoloisothiazole, 2-amino-1,3,4-thiadiazole, 5-amino-1,2,4-thiadiazole, 5-amino-1,2,3-triazole, 2-amino-1,3,4-triazole, 2(5) aminoimidazole,

3-aminopyridine, 2(3) aminothiophene, 2(3) aminobenzo[b]thiophene, 2-aminothieno[3,2-b]thiophene, 3-aminothieno[2,3-c]isothiazole, 3-amino-7-benz- 2,1-isothiazole, 3-aminobenzothienoisothiazole, 3-aminoisothiazole[3,4-d]pyrimidine, 5-amino- 1,2,3-triazole, 3(4) aminophthalimide and 5(6) amino-1,2-benzisothiazolon-1,1-dioxide with said aromatic and heteroaromatic ring systems being unsubstituted or substituted with one or more groups selected from C_1-C_{10} alkyl, C_1-C_6 alkoxy, C_3-C_8 cycloalkyl, carboxy, halogen, C_1-C_6 alkoxycarbonyl, formyl, C_1-C_6 alkanoyl, C_1-C_6 alkanoyloxy, dicyanovinyl, C_3-C_8-cycloalkanoyl, thiocyano, trifluroacetyl, cyano, carbamoyl, -CONH-C_1-C_6 alkyl, CONHaryl, CON(C_1-C_6 alkyl)$_2$, sulfamoyl, SO_2NH C_1-C_6 alkyl, $SO_2N(C_1$-C_6 alkyl)$_2$, SO_2NHaryl, SO_2NH C_3-C_8 cycloalkyl, CONH C_3-C_8 cycloalkyl, aryl, aroyl, -$NHSO_2$ C_1-C_6 alkyl, -N(C_1-C_6 alkyl)SO_2 C_1-C_6 alkyl, -$NHSO_2$ aryl, NHCO C_1-C_6 alkyl, NHCO C_3-C_8 cycloalkyl, NHCOaryl, $NHCO_2$ C_1-C_6 alkyl, NHCONH C_1-C_6 alkyl, NHCONHaryl, N(C_1-C_6 alkyl)aryl, arylazo, heteroaryl, aryloxy, arylthio, C_3-C_8 cycloalkoxy, heteroarylazo, heteroarylthio, arylsulfonyl, tricyanovinyl, aryloxysulfonyl, C_1-C_6 alkylsulfonyl, trifluoromethyl, fluorosulfonyl, trifluoromethylsulfonyl, thiocyano, hydroxy, nitro or CH=D, wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C_1-C_6 alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C_1-C_6 alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-$C(CH_3)C=C(CN)_2$; wherein R_7 is a divalent aromatic or heteroaromatic radical selected from the group consisting of 1,4-phenylene, naphthalene-1,4-diyl, thiazol-2,5-diyl and thiophene-2,5-diyl:

wherein R_8 is selected from the group consisting of hydrogen or 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, cyano, halogen, -NHCO C_1-C_6 alkyl, -$NHCO_2$ C_1-C_6 alkyl, -NHCO aryl, -NHCONH aryl or NHCONH C_1-C_6 alkyl; R_9 is selected from the group consisting of hydrogen, C_1-C_6 alkyl, halogen, aryl, heteroaryl; R_{10} is selected from the group consisting of hydrogen, C_1-C_6 alkoxycarbonyl, cyano, carbamoyl, aryl, arylsulfonyl, aroyl, -CONH C_1-C_6 alkyl, or C_1-C_6 alkylsulfonyl; wherein Z is the residue of a coupling compound selected from the group consisting of electron rich compound classes of anilines, 1-aminonaphthalenes, 1,2-dihydroquinolines,1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro-2H-1,4-benzoxazine), pyrazolones, pyrazoles, 3-cyano-6-hydroxy-2-pyridones, 2,3-dihydroindoles, indoles, 4-hydroxycoumarins, 4-hydroxy-2-quinolones, imidazo[2,1-b]thiazoles, julolidines (2,3,6,7-tetrahydro-1H,5H-benzo[ij]quinolizines), 1-oxajulolidines, 1,2,5,6-tetrahydro-4H-pyrrolo[3,2,1-ij]quinolines, 2,6-diamino-3 cyanopyridines, 2-aminothiazoles, 2-aminothiophenes, 5,5-dimethyl-1,3-cyclohexanedione (dimedone), phenols, naphthols, 2,4-pentanediones or acetoacetarylides; wherein Y_1 is the residue of a bis coupling component selected from the group consisting of anilines, 1,2-dihydroquinolines, 1,2,3,4-tetrahydroquinolines, benzomorpholines (3,4-dihydro- 2H-1,4-benzoxazines), 3-cyano-6-hydroxy-2-pyridones, 2,6-diaminopyridines, 2,3-dihydroindoles, naphthylamines, 2-aminothiazoles, or a combination of these; with the provision that two acidic functional groups containing one acidic hydrogen each or a functional group containing two acidic hydrogen are present in the diacidic light absorbing monomer.

125. (New) The composition of claim 124 wherein Z is selected from the group consisting of: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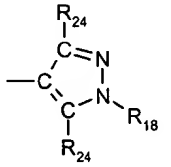
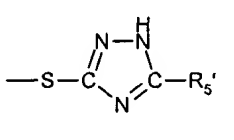


wherein R_{17} is selected from the group consisting of hydrogen, 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene- C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl, trifluoromethyl,$NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$, wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl, R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl, cyano, hydroxy, succinimido, C_1-C_6 alkoxy,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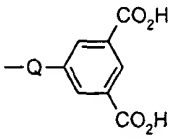
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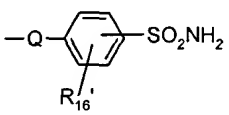
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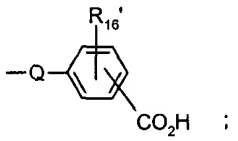
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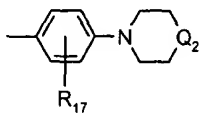
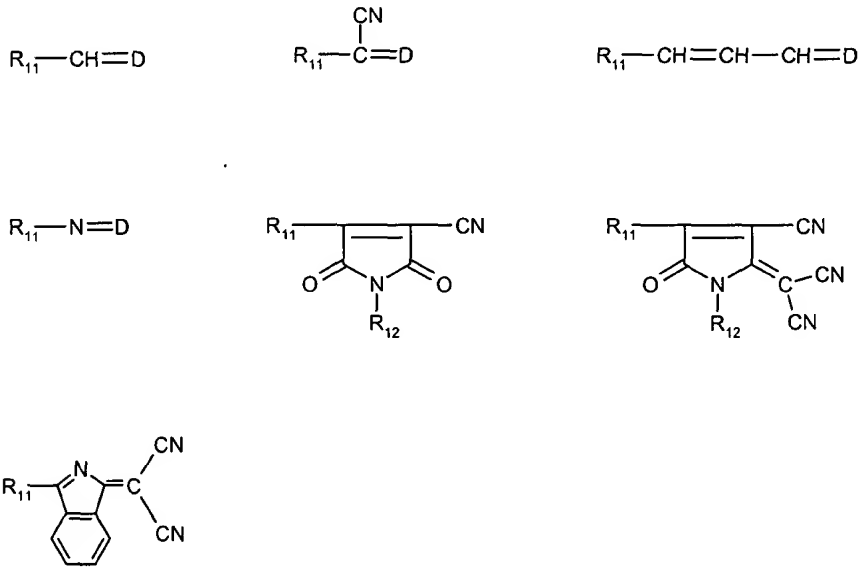
wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from hydrogen or one or two groups selected from C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, $-N(COR_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $-CON(R_{10})$, $-SO_2(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} and R_{19} are independently selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl or R_{18} and R_{19} may be combined with another element to which they are attached to form a radical Z having the formula



wherein Q_2 is selected from the group consisting of a covalent bond, -O-, -S-, $-SO_2-$, -CO-, $-CO_2-$, -N-(C_1-C_6 alkyl)-, -N(COC_1-C_6 alkyl)-, -N(SO_2C_1-C_6 alkyl)-, -N(CO aryl)-, or-N(SO_2 aryl); R_{20}, R_{21} and R_{22} are independently selected from the group consisting of hydrogen or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl.

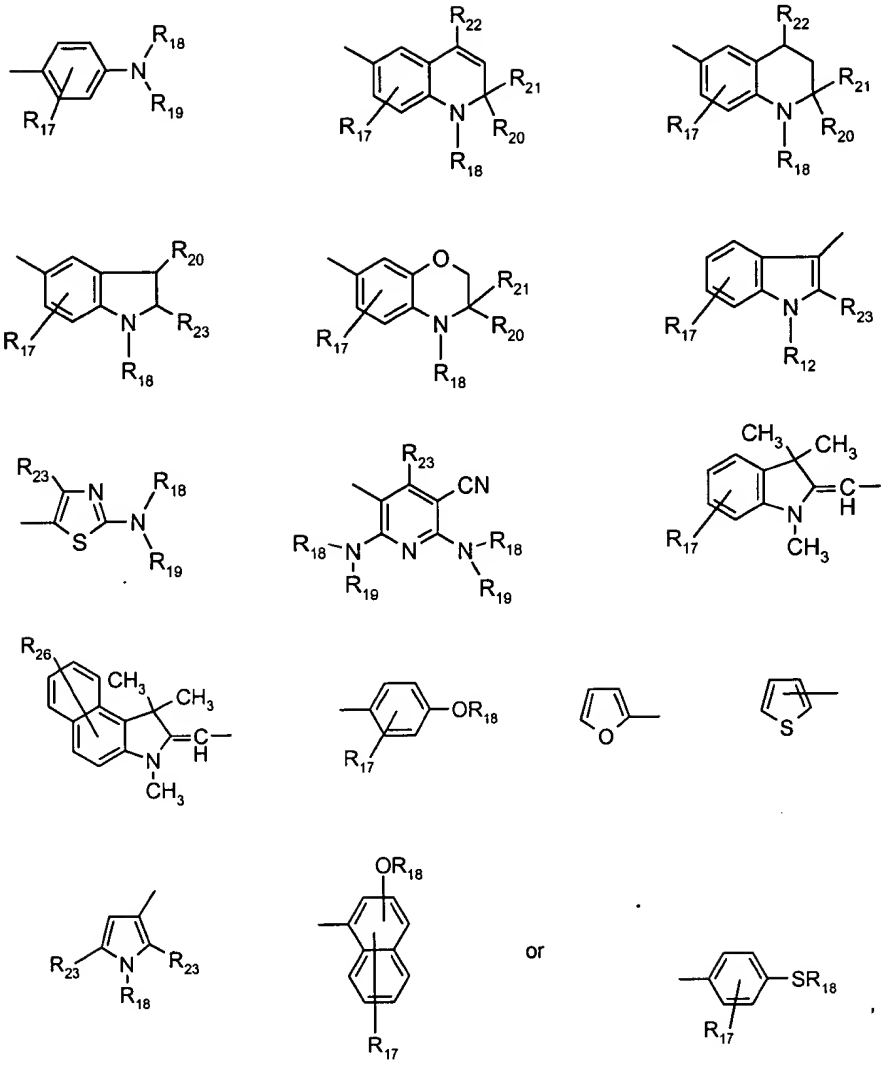
126(55). (New) The composition of claim 113 wherein the at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one light absorbing monomer selected from the group consisting of methine, arylidene, polmethine, azamethine, 3-aryl-2,5-dioxypyrroline, 3-aryl-5-dicyanomethylene-2-oxypyrroline and arylisoindoline and having respectively the structures:



wherein R_{11} is the residue of an electron rich aromatic compound selected from the group consisting of an aniline, 1-naphthylamine, 1,2-dihydroquinoline, 1,2,3,4-tetrahydroquinoline, 1,3,3-trimethyl-2-methyleneindole, 1,3-dihydro-2-methylene- 1,1,3-trimethyl-2H-

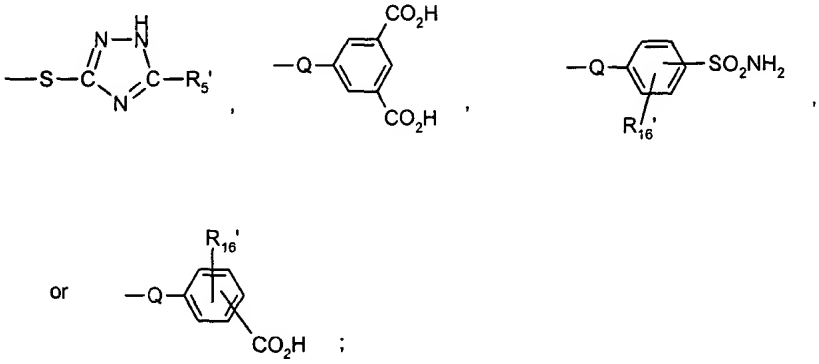
benz[e]indole, imidazo [2,1-b] thiazole, benzomorpholine (3,4-dihydro-2H-1,4,benzoxazine), 2,3-dihydroindole, indole, 2-aminothiazole, julolidine (2,3,6,7-tetrahydro-1H, 5H- benz [ij] quinolizine, 1-oxajulolidine, 4H-pyrrolo [3,2,1-ij]-quinoline, phenol, naphthol, thiophenol, pyrrole, pyrazole, furan, thiophene, carbazole, phenothiazine or phenoxazine compound; R_{12} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 alkenyl, C_3- C_8-alkynyl, C_3-C_8 cycloalkyl, aryl, $+CH_2CH_2O+_{1-3}$ R_{13} and C_1-C_4 alkylene- C_3-C_8 cycloalkylene, wherein the C_1-C_6 alkyl groups may be substituted by at least one group selected from the group consisting of carboxy, C_1-C_6 carbalkoxy, C_1-C_6 alkanoyloxy, cyano, hydroxy, chlorine, fluorine, C_1-C_6 alkoxy, C_3-C_8 cycloalkyl or aryl; R_{13} is selected from the group consisting of hydrogen, C_1-C_6 alkoxy or C_1-C_6 alkanoyloxy; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C_1-C_6 alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C_1-C_6 alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-$C(CH_3)C=C(CN)_2$, with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

127. (New) The composition of claim 126 wherein R_{11} is selected from the group consisting of the electron rich aromatic residues corresponding to the structures:

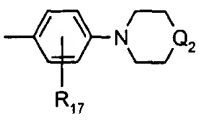


wherein R_{26} is selected from the group consisting of hydrogen or a group selected from the group consisting of C_1-C_6 alkoxycarbonyl, CO_2H, C_1-C_6 alkyl or C_1-C_6 alkoxy; wherein R_{17} is selected from the group consisting of hydrogen, and 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene- C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl, trifluoromethyl, $NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$, wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl, R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one

or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl,

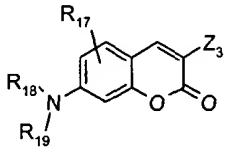
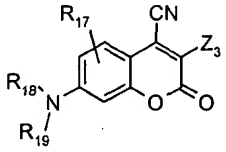
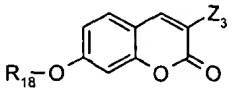


wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from the group consisting of hydrogen, one or two groups selected from C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, $-N(COR_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $CON(R_{10})$, $SO_2(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} and R_{19} are independently selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl or R_{18} and R_{19} may be combined with another element to which they are attached to form a radical Z having the formula

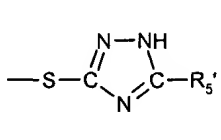


wherein Q_2 is selected from the group consisting of a covalent bond, -O-, -S-, $-SO_2-$, -CO-, $-CO_2-$, $-N-(C_1$-C_6 alkyl)-, $-N(CO$ C_1-C_6 alkyl)-, $-N(SO_2$ C_1-C_6 alkyl)-, -N(CO aryl)-, or-$N(SO_2$ aryl); R_{20}, R_{21} and R_{22} are independently selected from the group consisting of hydrogen or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl.

128. (New) The composition of claim 113 wherein the at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises a residue of at least one diacidic coumarin compounds selected from the group consisting of the structures

wherein Z_3 is selected from the group consisting of cyano, C_1-C_6 alkoxycarbonyl, C_1-C_6 alkylsulfonyl, arylsulfonyl, aryl, heteroaryl, formyl, aroyl, C_1-C_6 alkanoyl or-CH=D, wherein R_{17} is selected from the group consisting of hydrogen, 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene- C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl, trifluoromethyl,$NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$, wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl,. R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl, cyano, hydroxy, succinimido, C_1-C_6 alkoxy,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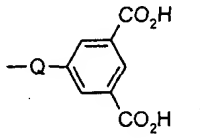
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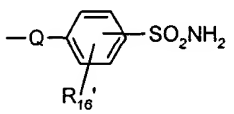
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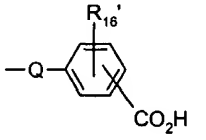
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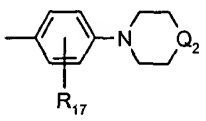
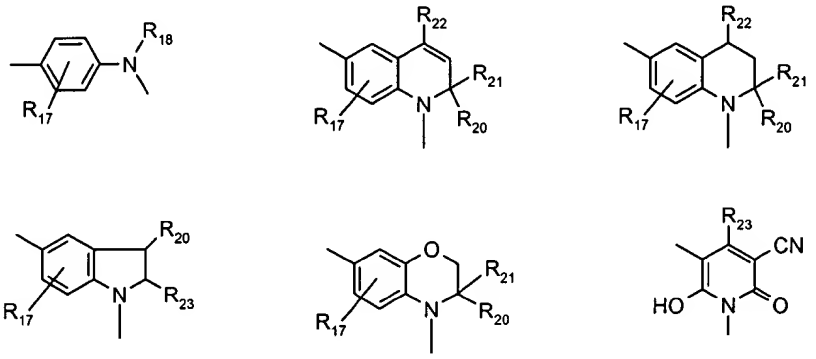
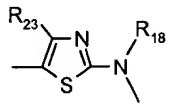
wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from hydrogen or one or two groups selected from C_1-C_6 alkyl, halogen, and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, -N(COR_{10})-, -N(R_{10})-, -S-, -SO_2-, -CO_2-, CON(R_{10}), SO_2(R_{10})-, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} and R_{19} are independently selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl or R_{18} and R_{19} may be combined with another element to which they are attached to form a radical Z having the formula



wherein Q_2 is selected from the group consisting of a covalent bond, -O-, -S-, -SO_2-, -CO-, -CO_2-, -N-(C_1-C_6 alkyl)-, -N(CO C_1-C_6 alkyl)-, -N(SO_2 C_1-C_6 alkyl)-, -N(CO aryl)-, or-N(SO_2 aryl); R_{20}, R_{21} and R_{22} are independently selected from the group consisting of or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl; wherein D is the residue of an active methylene compound selected from the group consisting of malononitrile, α-cyanoacetic acid esters, malonic acid esters, α-cyanacetic acid amides, α-C_1-C_6 alkylsulfonylacetonitriles, α-arylsulfonylacetonitriles, α-C_1-C_6 alkanoylacetonitriles, α-aroylacetonitriles, α-heteroarylacetonitriles, bis(heteroaryl)methanes, 1,3-indanediones, 2-furanones, benzo-2-furanones, naphtho-2-furanones, 2-indolones, 3-cyano-1,6-dihydro-4-methyl-2,6-dioxy (2H)-pyridines, benzo (b) thieno-3-ylidene propane dinitrile-5,5-dioxides, 1,3-bis(dicyanomethylene) indanes, barbituric acid, 5-pyrazolones, dimedone, 3-oxo-2,3-dihydro-1-benzothiophene-1,1-dioxides or aryl-$C(CH_3)C=C(CN)_2$, with the proviso that two acidic functional groups containing one acidic hydrogen each, or a functional group containing two acidic hydrogens are present.

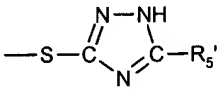
129. (New) The composition of claim 124 wherein at least one residue of a diacidic monomer having a light absorption maximum between about 300 nm and about 1200 nm comprises the residue of at least one bis-azo light absorbing monomer wherein the bis coupling component Y_1 is represented by the structure Z_1-L_1-Z_2, wherein Z_1 and Z_2 are independently selected from the group consisting of



or  ;

wherein, L_1 is bonded to the nitrogen atom of Z_1 and Z_2; wherein L_1 is selected from the group consisting of C_2-C_{12} alkylene, C_3-C_8 cycloalkylene, arylene, C_1-C_4 alkylene- C_3-C_8 cycloalkylene- C_1-C_4 alkylene, C_1-C_4 alkylene-arylene- C_1-C_4 alkylene, C_2-C_4 alkylene-O-arylene-O- C_2-C_4 alkylene, $(C_2$-C_4 alkylene $O)_{1-3}$ C_2-C_4 alkylene, C_2-C_4 alkylene- S- C_2-C_4 alkylene, C_2-C_4 alkylene-SO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-N(SO_2 C_1-C_6 alkyl)- C_2-C_4 alkylene, C_2-C_4 alkylene-N(SO_2 aryl)- C_2- C_4- alkylene, C_2-C_4 alkylene- OCO_2- C_2-C_4 alkylene, C_2-C_4 alkylene- O_2C-arylene-CO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-O_2C- C_1-C_{12} alkylene-CO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-O_2C- C_3-C_8 cycloalkylene-CO_2- C_2-C_4 alkylene, C_2-C_4 alkylene-NHCO- C_2-C_4 alkylene and C_2-C_4 alkylene-$NHSO_2$- C_2-C_4 alkylene; wherein R_{17} is selected from the group consisting of hydrogen, 1-2 groups selected from C_1-C_6 alkyl, C_1-C_6 alkoxy, C_1-C_6 alkylthio, -O C_2-C_6 alkylene-OH, O C_2-C_6 alkylene-C_1-C_6 alkanoyloxy, C_1-C_6 alkylene-OH, C_1-C_6 alkylene- C_1-C_6 alkanoyloxy, halogen, carboxy, C_1-C_6 alkoxycarbonyl,

trifluoromethyl, $NHCOR_{24}$, $NHCO_2R_{24}$, $NHCON(R_{24})R_{25}$, and $NHSO_2R_{25}$, wherein R_{24} is selected from the group consisting of hydrogen, C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl, R_{25} is selected from the group consisting of C_1-C_{10} alkyl, C_3-C_8 cycloalkyl or aryl wherein each C_1-C_{10} alkyl group in R_{24} and R_{25} may be further substituted with one or more groups selected from the group consisting of C_3-C_8 cycloalkyl, aryl, aryloxy, arylthio, CO_2H, CO_2 C_1-C_6 alkyl, cyano, hydroxy, succinimido, C_1-C_6 alkoxy,



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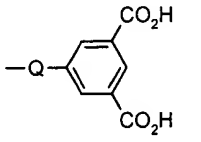

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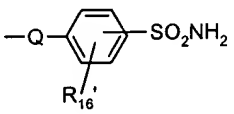

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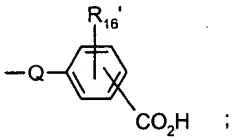

;

wherein R_5' is selected from the group consisting of hydrogen, C_1-C_6 alkyl or aryl; R_{16}' is selected from hydrogen or one or two groups selected from C_1-C_6 alkyl, halogen and C_1-C_6 alkoxy; Q is selected from the group consisting of -O-, $-N(COR_{10})-$, $-N(R_{10})-$, -S-, $-SO_2-$, $-CO_2-$, $CON(R_{10})$, $SO_2(R_{10})-$, wherein R_{10} is selected from the group consisting of hydrogen, aryl, C_3-C_8 cycloalkyl or C_1-C_{10} alkyl; R_{18} is selected from the group consisting of hydrogen, unsubstituted C_1-C_{10} alkyl, substituted C_1-C_{10} alkyl, C_3-C_8 cycloalkyl, C_3-C_8 alkenyl, C_3-C_8 alkynyl and aryl; R_{20}, R_{21} R_{22} are independently selected from the group consisting of or C_1-C_6 alkyl; R_{23} is selected from the group consisting of hydrogen, C_1-C_6 alkyl, C_3-C_8 cycloalkyl, heteroaryl or aryl.